

**This Page is Inserted by IFW Indexing and Scanning  
Operations and is not part of the Official Record**

**BEST AVAILABLE IMAGES**

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images include but are not limited to the items checked:

- BLACK BORDERS**
- IMAGE CUT OFF AT TOP, BOTTOM OR SIDES**
- FADED TEXT OR DRAWING**
- BLURRED OR ILLEGIBLE TEXT OR DRAWING**
- SKEWED/SLANTED IMAGES**
- COLOR OR BLACK AND WHITE PHOTOGRAPHS**
- GRAY SCALE DOCUMENTS**
- LINES OR MARKS ON ORIGINAL DOCUMENT**
- REFERENCE(S) OR EXHIBIT(S) SUBMITTED ARE POOR QUALITY**
- OTHER:** \_\_\_\_\_

**IMAGES ARE BEST AVAILABLE COPY.**

**As rescanning these documents will not correct the image problems checked, please do not report these problems to the IFW Image Problem Mailbox.**



**Log Out** **Order Form** **Work Files** **View Cart**

**BROWSE DELPHION** **PPON/CTM** **NEWS & EVENTS** **MY ACCOUNT** **IP SEARCH** **HELP**

**Browse Codes** **IP Listings** **Prior Art** **Darwin** **Advanced** **Boolean** **Quick Number**

The Delphion  
Integrated  
View

Other Views:  
[INPADOC](#)

Title: **JP11238518A2: NONAQUEOUS ELECTROLYTE BATTERY**  
 ► [Want to see a more descriptive title highlighting what's new about this invention?](#)

Country: **JP Japan**  
 Kind: **A**

Inventor(s): **TERASAKI MASANAO**

Applicant/Assignee: **JAPAN STORAGE BATTERY CO LTD**  
[News, Profiles, Stocks and More about this company](#)

Issued/Filed Dates: **Aug. 31, 1999 / Feb. 20, 1998**

Application Number: **JP1998000055872**

IPC Class: **H01M 6/16; H01M 2/12; H01M 2/34; H01M 10/40;**

Priority Number(s): **Feb. 20, 1998 [JP1998199855872](#)**

Abstract:

**Problem to be solved:** To provide a battery in which hydrogen gas is not generated, even if the air penetrates into its nonaqueous electrolyte by arranging an insulating liquid that does not have compatibility with the nonaqueous electrolyte and water on the upper part of the nonaqueous electrolyte.

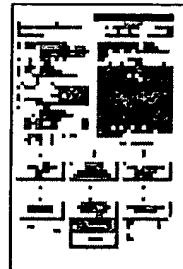
**Solution:** A rupture disc 6 is, for instance, a stainless steel plate having a thickness of 0.2 mm and is an inside pressure releasing mechanism to be ruptured by a pressure above a specified pressure, when the inside pressure is abnormally increased by gas generation and temperature rise due to overcharging, large current discharge or the like. If the rupture disc 6 is broken, the vapor of the gas and the electrolyte inside a battery is released to the outside, and at the same time, the outside air also intrudes into the battery, the water vapor in the outside air reacts with a negative electrode and generates heat, hydrogen gas is generated, and the temperature of the battery is increased. Then, the inside of the battery is filled with the hydrogen gas and is brought into a hazardous condition. A fluid paraffin 7 that is used to prevent this is not compatible with water, is an insulating liquid having a specific gravity smaller than that of a nonaqueous electrolyte, is floating on the upper part of the nonaqueous electrolyte 3 in the form of a layer, and prevents the generation of the hydrogen gas.

COPYRIGHT: (C)1999,JPO

► [See a clear and precise summary of the whole patent, in understandable terms.](#)

Family: [Show known family members](#)

Other Abstract Info: **CHEMABS 131(13)172681N CHEMABS 131(13)172681N DERABS**



[View Image](#)

1 page



<https://www.delphion.com/details?pn=JP11238518A2>

## NONAQUEOUS ELECTROLYTE BATTERY (JP11238518A2)

C1999-546758 DERABS C1999-546758

Foreign References: No patents reference this one



Nominate this  
for the Gallery...

---

[Subscribe](#) | [Privacy Policy](#) | [Terms & Conditions](#) | [FAQ](#) | [Site Map](#) | [Help](#) | [Contact Us](#)

© 1997 - 2002 Delphion Inc.



(19)

Generated Document.

(11) Publication number:

**11238518 A****PATENT ABSTRACTS OF JAPAN**(21) Application number: **10055872**(51) Int'l. Cl.: **H01M 6/16 H01M 2/12 H01M 2/34 H01M 10/40**(22) Application date: **20.02.98**

(30) Priority:

(43) Date of application publication: **31.08.99**

(84) Designated contracting states:

(71) Applicant: **JAPAN STORAGE BATTERY CO LTD**(72) Inventor: **TERASAKI MASANAO**

(74) Representative:

**(54) NONAQUEOUS ELECTROLYTE BATTERY**

(57) Abstract:

**PROBLEM TO BE SOLVED:** To provide a battery in which hydrogen gas is not generated, even if the air penetrates into its nonaqueous electrolyte by arranging an insulating liquid that does not have compatibility with the nonaqueous electrolyte and water on the upper part of the nonaqueous electrolyte.

**SOLUTION:** A rupture disc 6 is, for instance, a stainless steel plate having a thickness of 0.2 mm and is an inside pressure releasing mechanism to be ruptured by a pressure above a specified pressure, when the inside pressure is abnormally increased by gas generation and temperature rise due to overcharging, large current discharge or the like. If the rupture disc 6 is broken, the vapor of the gas and the electrolyte inside a battery is released to the outside, and at the same time, the outside air also intrudes into the battery, the water vapor in the outside air reacts with a negative electrode and generates heat,

hydrogen gas is generated, and the temperature of the battery is increased. Then, the inside of the battery is filled with the hydrogen gas and is brought into a hazardous condition. A fluid paraffin 7 that is used to prevent this is not compatible with water, is an insulating liquid having a specific gravity smaller than that of a nonaqueous electrolyte, is floating on the upper part of the nonaqueous electrolyte 3 in the form of a layer, and prevents the generation of the hydrogen gas.

COPYRIGHT: (C)1999,JPO

